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ABSTRACT

This paper reports on the emerging market in information on development-related activities in terms of the European capacity in databases and information networking. The first of its two parts addresses issues that are emerging consequent to the introduction of information technology in developing countries. Problems of definition and interest in the area of information for development are explored; information users are described; and types of information involved are defined. Major institutions in Great Britain concerned with library and information science, documentation, and computer science are identified, and similar institutions in West Germany, France, Scandinavia, Belgium, and Switzerland are briefly mentioned; a table lists the names and addresses of British institutions. The second part outlines recent progress of each of the 13 British member agencies of the Information and Documentation Working Group of the European Association of Development, Research, and Training Institutions in introducing information technologies in their organizations. Progress by other institutions is also noted. Information systems and databases are briefly reviewed, as are training courses in Britain that focus on information technology and development planning. (SD)

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A contribution towards forming an understanding of the potential for conultancy, marketing and training related activities.

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1. Introduction

This project follows work undertaken in response to a request originating at the Conference of the European Association of Development, Research and Training Institutions (EADI) Working Group on Information and Documentation in Bergen in 1985 and funded by UNESCO, which investigated the emerging market in information on development-related activities in terms of the European capacity in databases and networking.

It also follows the reconvening of the Information for Development Co-ordinating Committee (IDCC) under the aegis of the British Library. The committee, originally convened by the British Computer Society (BCS), intended to co-ordinate the work of that Society, the Library Association (LA), the Institute of Information Scientists (IIS), ASLIB and the United Kingdom Council for Computing Development (UKCCD). It has now been enlarged to include a wider range of institutions interested in issues summarised by the title of this paper.

This paper sets out to provide a checklist of the institutions in Britain, with a comment on Europe, which are concerned with this field and to summarise the issues which are emerging consequent upon the introduction of information technology in developing countries. From this it is intended that the IDCC will be able to provide a policy forum in which the role of British institutions concerned with the information market and its relationship to economic and social development in the third world may be formulated.

The major part is an attempt to draw some lines n the seamless garment of information for development. It indicates the problems of definition and interest, and suggests that the area can be defined either in terms of:

1. historic disciplines,
2. information users,
3. format or medium of information presentation,
4. or major information providers.

The second part outlines some of the problems and arguments which concern those engaged in implementing information systems in developing countries and indicates some of the steps which IDCC could take.

The checklist is a snapshot taken in November 1986. One of the recommendations of the earlier UNESCO work was that the database maintained by UNESCO, DARE, which produces the Selective Inventory of Information Services (2nd ed revised 1985) should be amended to include call parameters and log-on procedures, and that it should be available on-line. This is in part the list of recommended institutions for inclusion in that inventory, the intention for which is continual update and triennial publication in hard copy. It is unfortunate that Britain's withdrawal from UNESCO will limit the full effectiveness of this international co-operation, but any other attempt to maintain such a database will prove likely to be prohibitively expensive.

The group of people interested in maintaining a knowledge of the information sources continue to meet annually as the EADI Working Group and produce a newsletter, Development Information. The members of this Group probably remain the most

knowledgeable people in the field.

However the single central conclusion is that we should extend the effectiveness of their networking capacity by setting up a database within JANET linked to an electronic bulletin board, which, while not capable of maintaining the full database which UNESCO could maintain, will be an updating of information about information. A specific project proposal is currently seeking funding elsewhere.

2. Definition of the field

Development Information has become a catch-all for a complex set of relationships among which there is no central unifying factor. There are at lest four quite distinct traditions:

1. Information stored in libraries and archives as it is historically understood - that contained in books and documents - and the collection of tools which has been developed in the discipline of librarianship;

2. Information technology and computer science as they have emerged following the increasingly wide availability of computers and telecommunications, though here the traditions of voice and data transfer are as different as any of the others I comment on;

3. Management and administration as both taught subjects and practices, in which the differences in project management between say agriculture and building construction are at least as great as the similarities;

4. Development studies as a discipline following the demise of colonial administration and the definition of a section of the world's surface as the "third world".

Each of these fields has it own institutions, professional bodies, considerable literature and cross-classifications which makes listing the institutions a complicated issue.

In the first three of these fields there is only a marginal interest in the "third world"; the vast bulk of the literature makes no reference to it. Williams (1985)[1] for example has no entry in the subject index for "third world", "developing countries" has two, Africa has four (neither of which is listed under developing countries), Asia none at all, Latin America fourteen, poverty isn't listed, population includes specific references to Indonesia, Korea and Malaysia. Now partly this might be simply chaotic indexing in Williams, partly the American dominance to which I shall return later, but I think that the point remains: it is extremely difficult to extract literature referring specifically to the third world and the bulk of the literature has no significance for the issues which concern us here.

INSPEC, LISA and a wide range of other databases make a passing attempt at covering third world issues, but the conclusion must be that it is marginal, as are their marketing strategies in those areas.

In the third world there is little historic interest in information, systems or technology. Indeed there is often an anti-technology bent masked by talk of "appropriateness". There is also an enormous divergence between the policy and planning side of development, the "development studies" which is undertaken by European undergraduates and post graduate students which has no policy implications, and the socio-cultural studies or ethnological areas. This complexity is compounded by traditional emphasis on regions or countries for specialisation with the concommitant set of institutions.

In terms of identifying the institutions with which we are concerned it might be helpful if I model what I consider to be the central issues as shown in Fig 1.

In other words what I am suggesting is that there has to be a central core to the discipline with which we are concerned: we cannot accept a definition which encompasses almost everything.

2. If we look at a number of historic developments in documentation information systems we could summarise their progress as follows:

Chemistry, biology
agriculture
rural development
the third world

or, to give another example:

Engineering, structures
building construction
architecture
human settlements

or again,

Chemistry, anatomy
pharmaceuticals, food
medicine
health

or

Electronics, engineering
informatics
information systems
management

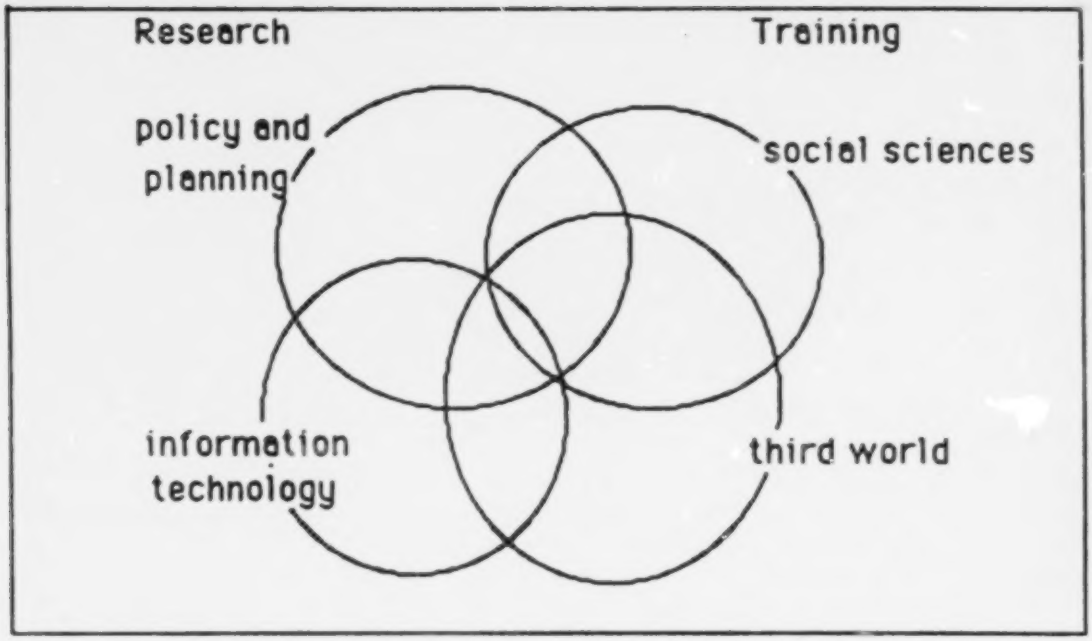

Fig 1

What becomes clear is if you start with the physical sciences, then move on to an application or applied science, you can then posit a social or human science which has a development application. As you move from the physical to the social science to the third world the literature is badly, or less well, organised.

If you approach investigation by another path:

Analysis of social institutions
theory
policy
planning
projects
evaluation

you see that there is no information systems which has been defined to satisfy the queries which will be generated within this type of activity. If you then look at the developing countries you see the problem compounded: the literature on social policy and planning is a minority literature within a field of the predominantly physical sciences, and the study of development is a minority within that.

So far I have been considering only the traditional area of documentation. If we look at other types of data - the wide availability recently of financial data - we are at an even more primitive level. Commodity prices, demographic statistics, trade data has no established system to provide availability. It is also an area where the wide differences of access between companies in the City of London for example, and the governments of the developing countries, are at their widest. Even researchers in Europe are

comparatively disadvantaged.

3. Then there is the complexity for the organisation of the information that I referred to above of the tradition in Europe for studying regions of the third world. There are networks of institutions and information systems which can roughly be divided into the Arab region, Africa, Asia and Latin America. These in turn divide so North Africa, SAHEL, SADCC countries, South East Asia and so forth which have specialist groups and institutions. In some cases these regional divisions in turn follow the patterns of the old colonial empires.

4. It has been suggested that the area of work of policy and planning is the interest of a minority, an extremely small minority, of the European academic community, even in the broadly defined social sciences and that much of what I have outlined above is of no interest or significance to the vast majority of development studies or research training. I think we have to argue against this proposal.

In other disciplines too though there is a minority who are interested in third world applications or working in the third world. they experience considerable difficulty in knowing what others are doing and are often too uncritically capable of simply translating their experience.

I think that the problem we have to face is that there is no way of dividing up the seamless robe of information in relationship either to development training and research, or policy and planning, or the "third world". There is nothing specific to these categories. Development Information can be information about anything and everything. Except that the particular perspective with which it can be applied in non-OECD countries needs a consciousness and training which is not common in training institutions in OECD countries.

3. Users of the information

Another way of tackling the problem might be to define the field in terms of outlining some of the possible users of the information sources. Here is one such list

3.1. Academics, researchers and trainers

Firstly there are the academics and research workers in Europe. I am starting with them because they are here; they have a well-established tradition and pattern of information generation; they are probably responsible for most of the material with which we have to concern ourselves. Reduction of available funding is making them more aware that more care has to be taken with resources.

The field of interest as I define it though presents us with problems. If we had started off considering the classic definitions of the social sciences that would have cut out the people who are interested in implications of new technology, or the telecommunications experts who are interested in the development aspects. In other words, there are scientists who are concerned with development and there are developers who are concerned with the technical. Similarly there are those who are not interested in the policy implications. So we have the four way definition of my diagram above.

Although we can say that in Britain a number of universities and polytechnics have schools of developments studies, or some such title, in addition almost all will have departments of geography, economics, management, parts of which will have a third world section, though by no means all; in addition there will be departments dealing with architecture, transportation, civil engineering, computer science, where there will be interest in the development implications though often by a single isolated individual.

Our "users" therefore will not simply be interested in the established literature on development, and its policy applications, but secondly there will be material within the more established information sources which will be relevant.

Clearly works such as World of Learning will be useful for indicating

institutions, and those which have schools of development, but they will fail to indicate individuals or departments with either a strong policy or development interest within other sections.

Then we move on to a particular type of academic, those concerned with training - the practical translations of theoretical work into the ability of workers in the field to change deliberately the environment. Their information needs might well be different. Here again, information needs move from the tradition social sciences into a much wider area. They will also be concerned with the availability of information in the developing countries.

3.2. Funding Agencies

The bodies which grant aid for the third world and which award research funds are clearly interested in what the money is used for, where it goes, who uses it. They are becoming increasingly interested in whether it is being used to the best possible purpose and whether it is achieving the desired end. Their information requirements will become more sophisticated as they become more demanding for accountability.

There is some evidence that they are becoming more aware of the uses of information for both policy on development and the administration of their development activities. They are likely to become a major source of the information supply to the other types of users, though Cassen[2] rightly deplores the failure of these agencies to co-ordinate their activity on their information flows.

Included here are the international agencies, the national governments of the donor countries and a number of charitable organisations including religious bodies.

3.3. Students and researchers working in Europe

This group is worth identifying next because they are the group which has the greatest need to be able to get hold of difficult material, and to know that there are other people from third world countries working in Europe at the same time. Traditional western academic disciplines and traditional social organisation among academics might mean that their actual community of interest is hidden, possibly even to them.

They will in general have been funded by a limited number of institutions, so it should not be impossible to track them down. They are here only for a short while, so need to be able to access the sources of information quickly.

There is then the other type of student, the European who is either studying 'development' or who must have a comparative component in another field. Some will in turn work in the third world. They are under less pressure, but evidence indicates that their information requirements are not understood or developed.

3.4. Consultants

Brenda White[3] indicated more than ten years ago the limitations on the use of information by planners - I see no reason to presume that his has changed. There is even less indication that other consultants make use of formal information systems. On the contrary, the slight evidence I can draw on indicates they are even more dependant on the information. This is worth more study, but in the meantime I think we can presume that they draw on a very small information base, would be unable to afford, particularly if working in small practices, to build up an extensive documentation collection and maintain it, and probably rely on out-dated and erroneous data.

When they are working in the field the situation might even be worse. We probably need to separate those consultants who are concerned in formulating policy and drawing up plans, from those who are involved in specific project implementation. Their information uses and requirements will be different, as will their expectations.

When part of a large practice with an international organisation they might be rather better serviced though more work needs to be done on this - my slight acquaintance with practices in Britain indicates no grounds for thinking they are well informed, particularly about the development implications of their work rather then the technical.

This category of user is particularly important because they are information generators as well as consumers. The private nature of the contract between the client and the consultant makes it difficult to get hold of their reports. This too needs more work.

It might be worth including here also the international companies which have considerable investment in the third world. Again we know little of their information practices, and they are even less likely to be forthcoming with contributions to the organisation of the material.

3.5. Planners in the third world

While the social scientists, planners and policy makers are being trained in Europe they will be introduced to a range of material and it uses which they might then want to have access to in their own practice.

I have concentrated on information systems in Europe because I think that is a great enough problem for the resources we have, yet can they be handled in a manageable way so that we can see some results?

I have also distinguished, somewhat unreasonable, between those who spend most of their time in western Europe with only slight incursions into the third world, from those who spend most of their time there. It is the latter who will become most aware of the limitations of an infrastructure which comprises a significant part of the capital stock of the developed countries.

We must be concerned also with the actual information practises in the developing countries. A detailed discussion of the issue is beyond the scope of this paper, much has already been done in some detail at the level of book publishing and bibliographic data. The traffic of information to and from the developing countries requires urgent study once the institutions in Europe have been identified.

4. Types of information involved

Yet another way of sketching the complexity of the issue is to look at the range of material in terms of format. Because of the way in which information systems have historically developed, this might be useful. A crude approximation would be as follows:

4.1. Published literature

At one level I think we can say that the published literature produced in OECD member countries is sufficiently well organised that we do not have to devote too much time to it. Anything to which ISBN is allocated is traceable and available. The producers make some effort to ensure that it is known about.

There are four problems. Firstly there are sections of works which might be of interest but not normally cross the paths of those working in other disciplines.

Secondly, it is not enough simply knowing that a text exists, but what is needed is something indicating the significant collections. And here it isn't enough to know that somewhere or other has the best collection in the world, but to know the best relative to what you can get at.

Thirdly, there is no retrieval language or database organisation to facilitate identifying the third world literature.

Fourthly, all this costs a lot of money.

The range of databases dealing either entirely with the published literature, or including it, is also now well documented. Searching these databases remains an expensive operation, requiring skilled and experienced staff and a sophisticated telecommunications facility. Even if electronic networking is not yet feasible, much of their content is available in hard copy through inter-library loan, at least in Europe. CD-ROM presents an emerging technology with interesting potential.

4.2. Journals

The whole field of access to information through journal literature is too wide to be considered here, but at one level there isn't too great a problem , in that Ulrick's Directory of Periodicals lists, with a subject index, most journals that have established some prominence in the field. A study of the organisation of the subject index though will show the sort of problem I talked about earlier. Further, we are concerned not simply with knowing of the existence of a journal, but being able to get at the contents.

The German Comparative index to periodical articles on microfiche is at present too expensive to be widely available. UNESCO though produces a substantive guide to social sciences periodicals. The main on-line databases which include journal articles require considerable knowledge by intermediaries, have significant limitations caused by the query language, and are expensive. Research so far (eg Bell)[4] indicated that they have failed to provide a useful entry to the journal literature.

4.3. Grey literature

In this field we are now coming to grips with the type of material where the concern is more recent. The SIGLE project has begun to pull together material within a European context, but remains firmly wedded to the scientific literature. The work of Transmedia with the University of Warwick in the series Economic Working Papers has been a step forward, but they are not integrated into any other information system, are not accessible interactively, and the method of subscription makes them expensive when you might need only one in a year.

Working papers of may institutions, government semi-publications, consultants reports, unpublished documents, are the sorts of materials we are considering here. They are difficult to know about, trace or get hold of, usually with very small production runs, expensive to reproduce, of brief currency and often important precisely for their currency. Simply ordering, invoicing and cataloguing can prove more expensive than the document, though at the other extreme are reports costing hundreds of dollars from consultants.

There is also the argument that as they are the property of the client by whom they were commissioned, are sensitive or confidential, so they ought not to be available in any case.

4.4. Theses

These represent possible the most valuable and under-utilised body of literature on developing countries, involving considerable and thorough literature searches, utilise primary material, are reviewed by experts in the field, and then disappear without trace. I have considered elsewhere the difference between the handling of the PhD literature in the USA with that of Europe, and consider the correction of this imbalance a matter of urgency.[5]

The announcement by Learned Information that they are making available a UK Directory of Theses needs following up. In particular the problems of indexing will need examining.

ASLIB has republished the Index of Theses. Again the indexing needs examination. It exists as a machine readable file so has potential for further exploitation.

4.5. People

We now begin to move away from the established fields of documentation and bibliographic control into areas which are increasingly being seen as equally important, but on which little work has been done.

At one level a people file appears self-evident. Every institution maintains an address list but not always is this seen as a valuable information source. I would like to suggest that the logic is to regard access to files of people, experts, those with particular experience as now not only worth doing, but that the availability of cheap and easy to use database management systems (DBMS) has made this simple. Training will still remain a considerable expense. There are many examples of small-scale attempts at computerising membership lists, but not accessible via a network. As directory of experts one might cite BEST, but it is too soon to be able to evaluate it. The costs appear prohibitive.

4.6. Institutions

Maintaining a database of people runs logically on to maintaining a database of institutions. To be able to identify the centres of excellence in a particular field is obviously useful; a number of referral systems such as INFOTERRA have tried this in the past. The availability of the INFOTERRA database on microcomputer readable discs running under Micro CDS ISIS should prove useful.

What I think is more useful is to build up files on these institutions - their prospectuses, staff lists, publications lists and so forth, and in the database to identify not only their addresses and telephone numbers, as would have happened in the past, but much more as well. A location within a training institution would be a good place for such a file, and a number are maintained by the institutions listed later. For the publication of a database recording such institutions one might again refer to DARE. The work of the OECD Development Centre, which goes much deaper into the institutions in the developing countries themselves, is another example.

4.7. Projects

Following logically from institutions, is their work. This too is included in the published work of the OECD DC[6]. It is necessary to distinguish quite clearly two types of project: research projects and development projects. The former are exercises of a purely academic nature, the result of which will be an academic paper; the second involve real implementations in the third world. Information about the former is of interest to social scientists, information on the latter is the sort that Cassen has made so much of.

In addition to the fact that a project is being conducted it is useful to know funding, publications, participants, and evaluations. This sort of information will then make the exercise of economic impact analysis much more effective. Clearly also this will be of use to the funding agencies and policy implementors of the developing countries for they will be able to aggregate upwards the quantity fields and draw conclusions on economic implications at a strategic level.

Evaluating research in the social sciences has a problematic history, but that is no reason for not attempting it. Simply building up lists of research projects though, either on-going or completed, is of extremely limited value.

4.8. Statistical databases

We have now left the traditional work of documentation centres thoroughly. The historic division between librarians and statisticians and the development of national computer centres emerges. Though libraries held published volumes of statistics, they have been much slower to see the responsibility for digitised statistical data. Similarly though the field of documentary databases is well listed, access to statistical databases is more difficult. A number of agencies are now engaged in compiling directories to statistical databases, e.g. ESRC Centre for Economic Computing.

4.9. Geospatial Databases

Now we are moving into the area of the almost unknown, where even in Europe little is known. The UDMS conference, the UNCRD conference in Nagoya and the work of bodies such as BURSIA probably indicate the directions in which we need to move, but at this stage it is simply a matter of drawing attention.

4.10. Management Information Systems

The same applies here. We are barely at the level of knowing what to teach of what sort of systems to design. Information on the systems has barely begun. I am attempting to build up a bibliography, and , the Library Association Library a collection, but this is an area in which much more work needs to be done. My paper for UNCRD deals with this in more detail[7].

4.11. Software.

There are now several organisations involved either in the production of software which has particular development implications, or involved in producing directories or networks for their use. IBM for example has produced such a directory and set up a project with the World Bank for distribution via broadcast.

There are also a number of software evaluations in different application areas. to detail them is again beyond this paer, but for a summary see my to UNCRD papers cited.

5. The major institutions

Another way of summarising the problems of subject definition is to survey the institutions predominantly responsible for generating the data with which we will be concerned.

5.1. United Nations

It is clear that the first must be the United Nations. A book could be devoted (many have) to simply attempting to understand the complexity of the organisation which consumes so much of the aid related expenditure of governments. Fortunately because what we are concerned with here is information provision related to development planning we welcome the existence of ACCIS, the Advisory Committee for the Co-ordination of Information Systems. The Directory of UN Databases, DUNDIS, has taken about 250 pages out of this report by listing the databases of the United Nations in a published volume and providing both of the database on disc and on-line. Only those which show some interesting developments in terms of widening access through publishing in a variety of media which are not yet common are listed in the checklist. The UN is also engaged in expanding its networking capacity, but this is not widely enough available yet to be worth a detailed discussion here.

It is also worth drawing attention to the prototype Register of Development Projects mentioned in the checklist; this will prove invaluable if it gets beyond the trial stage.

5.2. EEC

Next is the EEC. The publication of the list of projects receiving funding which has appeared for some time in the Courier as the blue pages, is now available as an on-line database PABLI. The Eureka and Esprit programmes are both allocating funds to developments in information technology which can benefit development-related activities if people can keep themselves well-enough informed. Eurokom, a network of research workers in the EEC is available to those who want to register, but its potential has yet to be developed. ECHO has proven to be the host on which many UN databases have been mounted and Euronet Diane has prepared a directory of databases with a much wider span than many of the commercially produced ones. Yet one is left feeling that a division between DG13, responsible for the information market, and DG8, responsible for development and the third world, has led to an inadequate utilisation of resources which could be corrected. However Anthony Smallwood has recently completed a spell with DG8, which included the mounting of PABLI as a database, and Sir Raymond Appleyard has recently finished with DG13. I would have thought that there might now be an

opportunity for bringing them together with IDCC and drawing on their experience.

5.3. OECD

The OECD is not a major organisation in terms of the other two, buts its Development Centre has made a major contribution to the development of information on projects being conducted in the third world. Their register of training institutions and development projects (see earlier note) was an early and valuable contribution. The current work with ICCDA should bear useful fruit. See for example their newsletter, and the newsletter of the constituent organisations.

5.4. Networks

Next is probably worth summarising the networks which are emerging for the moving of data and sharing of access.

By networks in this context I mean the formally organised and funded inter-connection of computer-based information sources and users, rather than the more loosely termed networks which consist simply of, for example, a mailing list. The Joint Academic Network in Britain is an example.

The Joint Academic Network (JANET) is a leased line from British Telecom connecting the 43 British Universities and a number of other institutions. Each main computer site has a node on the network (which is in effect a computer organising the messages to flow into and out of the network).

The users within a College are the users of that College's computer facilities. When they wish to use the network they log onto a PAD (package assembler-disassembler) which bundles their messages, sending and receiving, through the network to the other host computer with which they wish to communicate.

Clearly the most important use of this in our field so far has been to be able to search external library catalogues or databases being spun within the network. From the network of course we can then get into the PSTN (the usual voice telecommunications network), the PSS (the digital packet switched network) or the IPSS (the international PSS). This means that any microcomputer, provided it has a terminal emulator (a mechanism by which it acts as a standard terminal) can then 'talk' to any other computer within this extended network, without the need for a modem. Within the network all communications and computer time are free to the user, being met out a common fund. Only when accessing the public (which since the privatisation of British Telecom presumably means the private) network has the immediate user then to make some financial arrangement.

The GEAC system of shared catalogues within six colleges of the University of London has now provided access to a very large database. Unfortunately the software is insufficiently sophisticated to allow for searching, but the next system review will be taking this into account. It might also then be possible to reserve a document, or order it on-line for inter-library loan. Conversely as a result of the cuts, while on the one hand libraries might reduce their stock seeing that someone else has something already, libraries might be more inclined to limit access from other than their own members, as had happened with the Institute of Education.

There is now a JANET libraries users group, a directory of libraries accessible through JANET and a guide to JANET available within the PAD which all look likely to make access easier.

For the institutions concerned with development policy this is clearly enormously important as almost all are small and badly funded institutions. Without the work of the JANET we could never had achieved the level of co-operation we have. Yet we have to be aware that the technical advanced simply open up new policy options which have to be fought for - they will not happen automatically.

In addition to JANET, there is also the European Academic Research Network (EARN) funded by IBM until 1987. This network covers most of Europe and in each country there is a host node. EARN in turn provides the network access of ARPANET and BITNET in the States and elsewhere. A directory of all institutions accessible is available as a file held within the network. For Britain this file is EARN.INFO@RAL* Eurokom performs the same function for EEC member countries, further information from Dublin +353 1 657890, information in IES newsletter.

There are of course many other networks and electronic bulletin boards which are being used for all sorts of purposes. Directories are published in all sorts of specialised journals.
One, run out of the South bank techno-Park, is specifically to development related activities.

In addition to a terminal emulator chip, if you have a piece of software, the version commonly used within JANET called in slang a 'Kermit' then you may not only use your microcomputer as a terminal emulator, but you are able to move files in and out, into a network, and into other machines. While this does not mean that a software package can necessarily run simply as a result of being ported over, it does mean that text and sequential datafiles can. In turn with a reformatting package datafiles with a different data structure can be reformatted.

I think this in turn means we have to re-evaluate the importance historically placed on compatibility of input from, data structure or computer hardware. (The EADI Information Working Group discussed papers dealing with these issues, and demonstrations, at the 1986 meeting held in Sussex. The proceedings will be available from Chr. Michelsen Institute, Bergen, Norway).

5.5. International organisations

There are clearly a number of international institutions involved in this area of work.

The Intergovernmental Bureau on Informatics (IBI) falls half-way between a UN organisation and an international body, growing originally out of UNESCO. It is funded at inter-governmental level, organises conferences, publishes and provides training.

IFIP, of which the BCS is the British corresponding body, has a series of working groups and technical committees, some of which are involved in third world issues. Currently Mr.D.Mole is the BCS representative on IDCC, Graham Morris, a BCS Vice President is also an IFIP VP.

FID as an international body has a number of British participants. For IDCC Brian Perry of the British Library is the communication point. FID has recently changed its name to emphasise its interest in information and sent a representative to the EADI Triennial Conference.

IFLA has the Library Association as the British member institution. For IDCC John Lindsay is the contact person.

ICCDA is the international association of development, research and training institutions, of which EADI is the European member body. In Britain its information and documentation working party meets regularly and produces Development Information. For IDCC Andrea Siemsen is the contact person.

IDRC has funded many aid projects in the field of information and is responsible for the production of MINISIS. A senior member of staff is currently on secondment to the Commonwealth Science Council.

IRRD is the international body responsible for road documentation and the maintenance of the international database. Its British contact point is the TRRL.

CIBDOC is the documentation group of the International Bureau on Construction, dealing with the whole range of the building industry. The PSA is the British contact point.

ISO as the international body responsible for standards has the BSI as its British body. Much of its work has implications for developing countries.

ITU, INMARSAT and so forth could all be included. Again it is possible that more work should be done here.

5.6. Britain

5.6.1. EADI Working Group

In February 1984 a meeting took place at the Development Planning Unit in University College London of about twenty people representing a wide range of institutions concerned with the field of information and development planning. From that meeting the decision was taken to set up a group, and to produce a newsletter. The group decided to function under the heading of EADI as many of the participants were EADI members. The newsletter has now run to seven issues, and the group has met at least yearly since then. This section summarises the steps these organisations have taken to refine their use of information technology.

ODA

ODA (Overseas Development Administration) Microcomputers using Cardbox Plus and Inmagic. Production of journals index called Development Index. 10.5k records available on database on Datasolve.

It also produces a Guide to British Aid and an annual report on aid policy and activity.

ODI

ODI (Overseas Development Institute) IBM AT using Inmagic. 7k records catalogued. Production of journals index called Periodicals Reference Bulletin with records included in database.

IDS

IDS (Institute of Development Studies at the University of Sussex) is in the process of installing a full Minisis implementation. Partly as a result of the pressure of the Group, the design specification now places external contact to this database as a matter of major concern. Clearly this database will prove to be of central importance as the IDS is the deposit library in Britain for development issues. Funding and government policy however give cause for continual fear that the costs of using it will prove prohibitive.

The project is now producing a newsletter to keep interested parties informed of developments. They have already mounted the Food Aid Bibliography involving 3.5K records, but modem problems have meant that this is not yet capable of being searched on-line.

IDS produced the Register of Development Research Projects in the past, but now say that they will be unable to do so again. The tape of previous editions is available; it is to be hoped that the DSA (see later) will take this on. It is also possible that the networking proposal (see later) will help in this.

PPC

Bradford University Project Planning Centre: Victor using dBaseII, with 15K records catalogued. In addition there is 5K of article citations in a journals index file and 5K of chapter level indexing in a chapters file.

IDP

Manchester University Institute for Development Policy and Management (Previously Development Administration Studies) IBM equivalent using dBaseIII Plus with 12.5K records in database.

DPU

DPU work started early using BBC Bs with Torch 2nd processor disk drives and dBaseII. Shortage of funds has delayed continuing data creation. Access to JANET. DPU is part of University College London whose catalogue is maintained within the University of London Central Information Service GEAC system. UCL is also a site of the project Quartet (a BL funded project involving online searching, electronic mail and facsimile for document transfer).

LRDC

Land Resources Development Centre is a department of the ODA. TRADIS database on PDP11/75 using CAIRS, now containing 42,000 records occupying 38Mb. This is spun by the CABI on a bureau basis and is accessible via PSTN and via Dialog. The Tropical Products Development Institute will be merging with them in September 1987; the databases will then run in parallel but are unlikely to be merged.

CAB

CAB is not currently involved in the Group and its resources are much more considerable that any of the current participants, but it is worth noting that it now is capable of offering an integrated package of on-line access, output on tape, paper or floppy disc, and is now evaluating a prototype project using CD-ROM. It is not accessible through JANET but is through Dialog and other spinners.It provides a prototype SDI service for practitioners in developing countries.

CDS

Swansea University College Centre for Development Studies was involved in the early stages. It is not currently computerised*? One of its staff though produces the abstracts for International Development Abstracts which is a commercially produced publication now available on-line. The Main University catalogue though is computerised and is available via JANET.

ODG

University of East Anglia Overseas Development Group does not maintain an independent library. The main library is computerised and access is available through JANET.

DAG

University of Birmingham Development Administration Group was involved in the early stages but isn't currently. They are planning to implement a computerisation programme shortly.

DPP

The Open University unit called Development Policy and Practice is the most recent to join. They are computerised through the OU and have put up a bulletin board on the third world within HUMBUL, a humanities bulletin board maintained at Leicester University.

RGS

The Royal Geographic Society was involved at first. It has a substantial collection and map library, but current level of information technology is unco-ordinated with other bodies inthe group.

British Council

The British Council has from time to time been involved, but is such a disparate body that it is not really possible to describe its information resources or its contribution to the Group.

5.6.2. Other organisations in higher education

Clearly there are a large number of institutions with a substantial interest in this field. The London School of Economics, the School of Oriental and African Studies, the Institute of Latin American Studies (which maintains the British Union Catalogue on Latin Americana), The Institute of Education in the University of London (which is involved in the production of the British Education Index), the School of Hygiene and Tropical Medicine (which produces the Tropical Diseases Bulletin), The Institute for Commonwealth Studies, The Centre for African Studies at Cambridge, the Southern Africa specialist collection at York, the Middle East Centre at Durham, the David Livingstone Institute at Strathclyde, the Department of Architecture of Newcastle, the Disaster Management Centre at Oxford Polytechnic and so on all have specific activities, but have not reported on their use of information technology.

Specifically worth mentioning is the London University GEAC system which allows the catalogues of the six major colleges to be searched, albeit rather primitively. The University is currently engaged in planning the next upgrade which should lead to the production of a major new bibliographic service.

There are in turn a variety of standing committees such as that on Africa (SCOLMA), the Middle East (MEDLAR), South East Asia, South Asia and Latin America. but again I know of none of them taking a leadership in information systems development. They do however provide a useful forum for communication and information pooling.

5.6.3. British Library

The British Library has put resources into IDCC (see following), into JANET (see above), and into project Quartet as well as a number of other activities which will aid development information. Clearly as the organisation which maintains the central national resource and the Official Publications Library it must be mentioned, but it would be difficult to suggest that it has made a coherent contribution to the issues of this paper. (Except of course funding its production.)

Specific projects which are not development focused but which bear a relationship are the SIGLE project, ADONIS, Quartet, the Index of theses and translations, BRUPC (British Research in Universities, Polytechnics and Colleges) and the Index of Conference Proceedings Received. See BL documentation for additional information on these.

5.6.4. Other government departments

Other government bodies or activities which could be mentioned include the Transbinary Study of Training in Librarianship in Britain[8] which did not appear to recognise that the issue of the third world even existed, a House of Lords Committee of Geographic Information Systems,[9] the Tropical Development Research Centre (which is to merge with LRDC), the Foreign and Commonwealth Office (FCO) which now has a joint development officer with the ODA on information systems, the Statistics and Marketing Intelligence Unit of the Department of Trade and Industry, the Transport and Road Research Laboratory (which maintains a database on road documentation in developing countries and produces a publication of that name), the Building Research Establishment which has created the database BRIX, the Property Services Agency, the CCTA (which is concerned with information systems standards) and others. Without turning this paper into a repeat of a previous survey, it might simply be noted that none of these has been involved in the work of the Group on which this paper is commenting.

The British node of INFOTERRA within the Department of the Environment has been involved to some extent, though badly under-staffed and underfunded. The database is now available on floppy disc running under micro CDS-Isis, but the British office doesn't have a microcomputer substantial enough to run it.

Though not a government department one could include here the Commonwealth Secretariat whose Science Council has been involved in IT projects, but not with EADI or the Group.

5.6.5. Professional Associations

There are of course many professional bodies which make a contribution to the third world through co-operation, training and in other ways. Those listed here include simply ones which are central to this paper and have special groups. Others could be included, such as RTPI, RIBA, Royal Geological Society and so forth. There is space for further work here.

BCS

The British Computer Society has a Developing Countries Group, which produces a newsletter and holds periodic meetings. The Group is more concerned with the actual technical issues of computerisation than with information services, but membership to some extent overlaps with that being reported here. The BCS is in turn the British body for the International Federation for Information Processing (IFIP) which has a Working Party concerned with development issues.

They also link up with other groups and have for example organised a substantial conference on arabisation.

DSA

The Development Studies Association has now set up an Information Systems Study Group which has had two meetings. Its membership comes more from academics concerned with investigating a number of the issues I outlined earlier whereas the EADI group is concerned more with information services, but there is a considerable overlap and they currently share the newsletter.

LA

The Library Association has a senior executive who takes an interest in international affairs, has a membership group called the International and Comparative Librarianship Group which meets periodically (it has for example organised a meeting on computerisation for non-roman scripts) and publishes a newsletter, FOCUS. It has an overlapping membership with the EADI Group but does not appear to have engaged on project development of a practical nature, except to publish a handbook of bodies engaged in international librarianship.

The LA's publishing department has put Library and Information Sciences Abstracts (LISA) on a CD-ROM, which opens up a possible area of future work, and produces ASSIA, a database on social services which it says will be deliberately international in coverage.

UKCCD

The United Kingdom Council for Computing Development links consultants, computer manufacturers and interested people, holds periodic meetings, publishes a newsletter, and is responsible for the editorship of the Journal of Information Technology for Development, published by OUP.

5.6.6. Consultants

Another area of activity is that of the private consultancy practices. Clearly a number of them are involved in managing projects in developing countries, and advising on information systems. There is a Consultants Bureau which

hold periodical conferences at very high fees, but none have contributed to the work of EADI or the Group.

Within the field of information studies, Library Development Consultants (who produce the journal Information Development) and Information Management Engineering (who have produced the software package Tinman for library management) are examples.

5.6.7. Industry and commerce

One might here also note commercial organisations such as the International Coffee Organisation, the London Metal Exchange, the Banks, British Telecom, IBM, Logica, Arthur Andersen, Arthur D.Little etc, all of which now have extensive information technology, substantial information services and a considerable activity and influence in the third world. It would be an exercise of imagination to say they are expressly concerned with "development" and their services are unlikely to be available to an enquirer other than with access to special privileges. It might be worth simply noting that there is an area for further study here.

5.6.8. Charitable institutions

These form another group of concerned institutions. Some of them are reported to be at various stages of computerising their own information sources, and to be involved in managing projects which involve information technology, but none have so far been involved. The "Band Aid" extravaganza produced no observable effects in the areas being studied for this paper. This might of course simply indicate that it is we who are out of touch with current best practice.

5.7. Europe

In this paper the bulk of attention has been given to Britain. A more substantial account of developments in Europe has been written for UNESCO[10]. Here a summary of main organisation is given for those interested in further communication.

5.7.1. Germany

The starting point must be the Deutsche Stiftung fur Internationale Entwicklung (DSE). 20 volumes have now been published of the comprehensive listing of the research projects and institutions funded by the German Government. Unfortunately this is spun as a database within the computer facilities of the Ministry of Finance, so that there is no possibility of interactive access. Work is currently being done to set up independently. Hopefully the datatape will be made available for further work.

The Informationzentrum fur Raum und Bau is one of the major documentation centre in Germany, mainly concerned with the more technical aspects of building construction. Its database has for some time been available on Telesysteme Questel.

Recently the West German government has funded a joint exercise with the United Nations Commission on Human Settlements, (Habitat) to run a database of research institutions and projects called HABIDOC Extensive surveying has been done for this and it now contains 2000 references. It is hoped that we will have access to this database in 1987, which will be linked to the ICONDA project for improvement to the general construction industry material.ICONDA is available via STN and Pergamon. The IRB offers a searching service for people who cannot have direct online contact.

5.7.2. France

The most important development in France in this field is the development of work on the IBISCUS database, and the associated network. The Ministry of Co-operation and Development has taken the lead in combining ten institutions to set up and run a database which so far has 35,000 entries but is clearly capable of expanding quickly.

The other system within France is the network spun on Telesysteme Questel. Urbamet is the database most concerned. It is produced by a number of organisations, including the Agence Co-operation et Amanagement, which is the international wing of the Ministry of Urban Affairs. The periodical abstracting newsletter which they have produced for many years, originally as SMUH, is effectively the main input. It does mean that Urbamet is currently the most comprehensive database in the field of urban development and planning in the third world. The problem of course is that it predominantly contains either French language material, or journal abstracts in English of journals which in Britain are very widely available and cited. It does not contribute significantly to drawing attention to slightly known material.

Fortunately there is an agreement of discipline coverage between Urbamet and Ibiscus. It is to be hoped that in the not too distant future these databases will be much more easily available as part of a wider co-operative.

The range of international organisations in Paris has been treated separately.

5.7.3. Scandinavia

Although each of the countries in Scandinavia needs to be treated separately, there is a community of interest and practice in the region and a functioning EADI Group. All the countries tend to be generous in their aid funding, relative for example to Britain, and because each has a minority language English material is widely available. They also have a strong tradition on documentation cooperation.

There is not the same strength in computerisation however. The Ch. Michelsen Institute is now experimenting with a package called Revelation for computerising the library.

The Ch.Michelsen Institute also maintains the comprehensive documentation on Norwegian development projects. This annual volume is an example of the sort of database which is essential to be able to do any real work on the impact of development projects. The database from which this is produced should be spun at a centre where access can be obtained so that formatting data into a more general file can be experimented with. This is probably the institution with which an enquirer should start.
See my UNESCO paper for more detailed discussion.

The Scannet network has been in the process of being implemented for some time. It producers a newsletter.

5.7.4. Benelux

There is now a functioning EADI group, contactable via NUFFIC, ISS or IMWOO. The national library network PICA is engaged in co-operation to make access to information more operational.

The EEC organisations in Brussels have been treated separately.

5.7.5. Switzerland

The IUED is the key institution here. It produces a Third World repertory and a bibliography.

There are of course a number of UN agencies in Switzerland, where the UN network is being developed with the Swiss PTT.

5.7.6. Other countries

It would expand the length of this paper excessively to cover other countries in detail. See Kovse[11] for eastern Europe, contact the EADI group for information elsewhere.

5.8. Japan and US

Of course Japan and the US are the major aid donors. A consideration of their information sources and activities needs another paper however and will not be dealt with here.

6. The issues emerging

At one level these all link together and overlap. There can be though to a certain extent, a division into at least a list. This serves at the moment simply as a memory jerker of what has occurred in the literature and at conferences. Each of these topics could have a summary of the discussions and major citations appended, but that must await a further paper.

The issues in part concern the technologies which are necessary to manipulate information and in part the management of the information itself, but the arguments tend to reappear in either context.

1. Information technology is inappropriate to the third world

This is a fashionable argument which is often heard from western-Europe advisers who are of the opinion that the third world consists of a rural population continually on the brink of starvation, for whom only the most primitive tools will be suitable. There are of course the alternative opinions that IT is the solution for all ills, or that it is neutral and value free. There are now enough systems which have been runing for some time that it is possible to begin serious work of impact evaluation

2. Hard currency

All information technology bought in from outside suppliers will have to be paid for in hard currency, a very rare commodity in most developing countries.

3. Legal limitations and import controls

There a number of legal limitations which are imposed by developing countries either in an attempt to defend their national boundaries or to exercise some control over their economies. The effect of these is probably counter-productive because government is powerless to
really alter the effcts ofthe market. In general it is small bureaucratic rules such as on the import of microfiche bulbs or floppy discs which hold up projects rather than major policy issues such as import substitution

4. Aid

Aid funding agencies have interest at heard other than the improvement of the universal good. National policy usually requires that where-ever possible only nationals of the aid-granting country will be funded, and only equipment produced within that country will be supplied. At the level of software this leads to considerable waste.

5. Training

Two issues emerge here: what is the most appropriate form of training in terms of level, location, content[12] and how do we evaluate training? This latter topic seems to me to be the one to which we should address most attention. There is a considerable amount of money being spend on aid training related activities, with no evaluation of courses, materials, or applicability[13].

6. Nature of management and administration

Tendencies to centralisation of decision making lead to tendencies in the design of information systems requiring large-scale computing resources. The costs of main-frame installations are much higher per unit of computing capacity than micro-computer based installations.

7. Power and democracy

Centralisation and decision-making in turn leads to shifts in the balance of power within society. Though there is a tendency to talk of developing countries are homogeneous wholes, it must be bourn in mind that many of them have not the slightest characteristic of democracy in the distribution of power or decision making. Indeed the failure of many project has resulted from the cavalier method by which those whom the project is intended to benefit are excluded from a part in the decision making.

8. Telecommunications and infrastructure

Developments in modern information management require an efficient telecommunications infrastructure. Combinations of land-line and satellite communication, options of digital exchanges and optical fibres are all changing the economics of telecommunications provision, but there is little work being done on projects for upgrading.

9. Combined and Uneven Development

The linking together of all the non-OECD countries as 'developing' leads to a confusion. there are parts of Brazil, Mexico, India, for example, which are as 'developed' as any part of Europe; there are equally parts of those countries which are as primitive as anywhere in the world. Thinking about those 'countries' as units of development leads to all sorts of confusions.

10. Project funding

A major source of difficulty is the way in which project funding is undertaken by both multilateral and bilateral programmes. There is now a significant literature dealing with this issue. There are just a few points which might be worth listing:

- Funding is for 'projects' which tend to be short-term, finite, and not allow for continuing development. With the installation of computer centres this is disastrous;
- Projects have to initiated by the 'developing' country;
- The aid-giving country appoints its own 'nationals';
- And supplies its 'own' equipment;
- and provides training in its institutions

11. Aggregation and disaggregation

Levels at which data is collected, eg census, register of births and deaths, property registers, and levels of detail, e.g. mapping, provide data which cannot adequately be aggregated to a level usable at the implementation of policy. On the other hand nationally aggregated data, as will emerge for example from the Indian "NICNET" proposal, does not exist at the intermediate level.

12. Co-ordination and co-operation

Ministries and departments engaging on programming of office automation or the development of information systems come quickly up against the desire to draw on the information of others, but are reluctant to become information providers.

Attempts to formulate policy either for information technology or information systems have not been successful. National informatics centres or national computer centres had have a limited life-span and a limited value; with the increasing availability of microcomputer based systems and development in telecommunications the issue of the design of information systems has become more and more important. Training in this field is possibly now the most urgent practical activity which has to be considered.

The range of information systems which I gave earlier indicates the scope, the problems of discipline mentioned earlier shows the difficulty. Which agency should be responsible for co-ordination will involve the varying power or different institutions and in federal societies affect the balance of forces.

13. Servicing and maintenance

For large data processing centres this has always had to be a major factor. The growth of indigenous microcomputer industries in a number of developing countries has reduced the dependence.

14. The information market

It is fashionable to genulfect towards "freedom of information" but the reality of the function of the market for information and information's function as a commodity has opened up an area of development research requiring further work.

7. Recommendations

Although this report has been commissioned by the British Library, the recommendations might most usefully go to the IDCC as the body most likely to be capable of implementing them.

1. Since Britain's withdrawal from UNESCO, co-ordination of attempts by British institutions has been in the hands of well-meaning individuals. It would be helpful if this could be regularised. IIDCC can perform such a function by providing a forum and medium of communication for interested parties.

2. JANET provides the capacity for a significant improvement in communication, but it will not always be possible for this to be organised informally through contacts. the IDCC might well provide the forum for co-ordination of negotiation with the various computer centres and the Computing Board.

3. The next series of ESPRIT funding call for proposals is currently underway. Various EEC bodies are potentially involved in the field covered by this paper. The IDCC could provide a mechanism for co-ordinating the effectiveness of attempts to raise European funding, and facilitate European co-ordination.

4. Possibly the most serious area for urgent work is on the evaluation of training. The professional bodies which are the members of IDCC has indicated that they neither know much about current training practice, nor participants, nor effectiveness. The work done by Dyer[14] should be built upon by other bodies, leading to a major project, possibly with the co-operation of the British Council, to evaluate training practice and materials. This in turn could lead to an enhancement of the contributions of training institutions in the developing countries.

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3. White, Brenda. The sourcebook of planning information. London: Routledge, 1974.

4. Bell, Simon. Information systems planning and operation in LDCs: a review of literature produced by information personnel. Norwich: UEA, 1986.

5. This is used as an example in my Why won't heaven help itself? A reply to John Myers. Journal of Information Science (10), 1986, p159-163.

6. OECD Development Centre. Register Development research projects in Africa and Directory Development research and training institutes Africa. Paris: OECD, 1986 for example. Similar volumes exist for Latin America, English-speaking Caribbean and are likely to appear for other regions.

7. In both the area of geospatial and management IS see for example by Training in information systems design for urban and regional planners. Nagoya: UNCRD, 1986 (Reprinted in Regional Development Dialogue (1987) and my Designing and implementing information systems strategies: a resource paper. Nagoya: UNCRD, 1987.

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9. Chorley Committee. Handling geographic information. London: HMSO, 1987.

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11. Kovse, Tanja. Networking and databases in Eastern Europe. Ljubljana: RCCDC, 1986. (reprinted in papers of the EADI workshop)

12. Lindsay (1986 (op cit).

13. Wakeley, Patrick. International strategy for human settlements training in developing countries. The role of international aid agencies. Nairobi: UNCHS, 1986.

14. Dyer, Hilary. Survey of training institutions in Britain. London: British Library, 1986.

8. Development Information Checklist

Checklist of Institutions in Britain

This list has as the first line the acronymn which I've used for ordering alphabetically.
The second line is the full name of the organisation.
The third line indicates a broad definition of area of activity or responsibility, where this can be estimated.
The fourth line indicates the contact person for either the EADI Group or the IDCC.
Thereafter follows the address and telephone number.

BC
British Council
Training
Rob Davies
10 Spring Gardens
London SW1
01 930 8466

BCB
British Consultants Bureau
Consultancy
1 Westminister Palace Gardens
Artillery Row
London SW1
01 222 3651

BCS-DCG
British Computer Society Developing Countries Group
Information Technology
Yakup Paker or Jamil Sharif
13 Mansfield St.
London W1M OBP
01 637 0471

BTOB
British Overseas Trade Board
Information, trade
Maria Collins
Department of Trade and Industry
Victoria St.
London SW1
01 215 4238

BRE
Building Research Establishment
Research, training, documentation
Bob Stevens
Garston WD2 OJR
0923 674040

BSI
British Standards Institution
Training, Documentation
Bill Widdowson
Linford Wood
Milton Keynes MK14 6LE
0908-320033

CA
Crown Agents
Services
St. Nicholas House
St. Nicholas Road
Sutton
01 643 3311

CABI
Commonwealth Agricultural Bureaux International
Research, documentation, databases
Margot Anne Bellamy
Wallingford OX10 8DE
0491 32111

CAP
Commonwealth Association of Planners
Urban planning, seminars
George Franklin
c/o Commonwealth Institute
Kensington High St.
London W8
01 445 0336

CAS
Centre for African Studies
Education
Janet Sheeley
University of Cambridge
Free School Lane
Cambridge CB2 3RQ
0223 337733

CDS
Centre for Development Studies
Training
Peggy Crease
University College of Swansea
Singleton Park
Swansea SA2 8PP
0792 205678

CI
Commonwealth Institute
Library, seminars
Mike Foster
Kensington High St.
London W8
01 602 4535

CIIR
Catholic Institute for International Relations
Charity
22 Coleman Fields
London N1
01 354 0883

CMEIS
Centre for Middle Eastern and Islamic Studies
Library, research
Heather Bleaney
Durham University
Durham
0385 64971

CS
Commonwealth Secretariat
Marlborough House
Pall Mall
London SW1Y 5HX
01 839 3411

CSC
Commonwealth Science Council
Marlborough House
Pall Mall
London SW1Y 5HX
01 839 3411

DAG
Development Administration Group
Training, consultancy
Chris Reeve
University of Birmingham
Birmingham
021 472 1301

DPU
Development Planning Unit
Urban Planning, library, consultancy, training
John Lindsay
9 Endsleigh Gardens
University College London
London WC1H OED

DSA
Development Studies Association
Research
Simon Bell
Overseas Development group
University of East Anglia
Norwich NR4 7TJ
0603 56161

ESRC
Economic and Social Science Research Council
Funding
160 Great Portland St.
London W1N 6BA
01 637 1499

FCO
Foreign and Commonwealth Office
Information co-ordination
Peter Griffiths
Cornwall House
Stanford St.
London SE1 9NS
01 211 0186

GA
Geoabstracts
Documentation
Christine Wilson
Regency House
34 Duke St.
Norfold NR3 3AP
0603 626327

ICLG
International and Comparative Librarianship Group
Librarianship
Andrea Siemsen
Library Association
7 Ridgmount St.
London WC1
01 636 7543

ICS
Institute of Commonwealth Studies,
Library, research
Pat Larby
27 Russell Square
University of London
London WC1
01 580 5876

ID
Information Development
Journal
Stephen Parker
10 Circus Mews
Bath BA1 2PW
0225 319586

IDCC
Information for Development Co-ordinating Committee
Committee co-ordinating work of organisations
Alan Gilchrist
38 Ship St.
Brighton BN1 1AB
0273 720088

IDPM
Institute for Development Policy and Management
Library, consultancy, training
Sheila Vaughan
University of Manchester
Oxford Road
Manchester M13 9QS
061 273 6241

IDS
Institute of Development Studies
Library, research
Alan Hopkinson
Sussex University
Falmer
Brighton
0273 606261

IE
Institute of Education
Training, library
Diane Guthrie
University of London
7 Ridgmount St.
London WC1
01 637 0846

IIC
International Institute for Communications
Mass media, Library
Tavistock House south
Tavistock Square
London WC1H 9LF
01 387 5923

IIED
International Institute for Environment and Development
Research
3 Endsleigh St.
London WC1
01 388 2117

ILAS
Institute of Latin American Studies, University of London
Library, BUCLA
Carole Travers
35 Tavistock Sq
London WC1
01 387 4055

IME
Informtion Management Engineering
Consultancy
Kate Bivins Noerr
1 Carthusian St.
London EC1M 6EB
01 253 1177

INFOTERRA
Department of the Environment
Information service
Judith Deschamps
2 Marsham St.
London SW1P 3EB
01 212 5270

ITDG
Intermediate Technology Development Group
Publications, research
9 King St
London WC2E 8HM
01 836 9434

LA
Library Association
Librarianship, Library
Russell Bowden
7 Ridgmount St.
London WC1
01 636 7543

LRDC
Land Resources Development Centre
Agriculture, Library, consultancy
Bill Posneu
Tolworth Tower
Surbiton
Surrey KT6 7DY
01 399 5281

LSE
London School of Economics
Education
Chris Hunt
Houghton St.
London WC2
01 405 7686

LSHTM
London School of Hygiene and Tropical Medicine
Library, training, research
Keppel St.
London WC1
01 636 8636

ODA
Overseas Development Administration
Funding, library
Ann Monks
Eland House
Stag Place
London SW1
01 213 5417

ODG
Overseas Development Group
Training, consultancy
Simon Bell
University of East Anglia
Norwich NR4 7TJ
0603 56161

ODI
Overseas Development Institute
Research, library
Andrea Siemsen
Regents College
Regents Park
London NW1 4NS
01 935 1644

OHI
Open House International
Architecture, journal
Nigel Wilkinson
University of Newcastle
091 2328511

OSD
Overseas Surveys Directorate
Mapping
Romsey Road
Maybush
Southampton SO9 4DH
0703 792236

Oxfam
Charity
274 Banbury Road
Oxford
0865 56777

PPDC
Project Planning Centre for Developing Countries
Library, training
Sheila Alcock
University of Bradford
Bradford BD7 1DP
0274 733466

PTRC
Planning, Transportation, Research & Computation
Seminars
110 Strand
London WC2
01 836 2208

QEH
Queen Elizabeth House
Research
Robert Cassen
21 St. Giles St.
Oxford OX1 3LA
0865 52952

Checklist of other institutions

EEC DG8
European Economic Community
Funding, produces PABLI
Franco Cupini
200 Rue de la Lois
Brussells 1049
Belgium
010 32 2 234 1111

IDRC
International Development Research Centre
Funding
Martha Stone
P.O. Box 8500
Ottowa K1G 3H9
Canada
010 1 613 236 6163

IBISCUS
Ministry of Co-operation and Development
Maintains database
Michael Guinard
1 bis Avenue de Villars
Paris 75007
010 33 1

OECD
OECD Development Centre
Produces register of projects and directory of institutes
Guilo Fossi
95 rue Chardon-Lagache
Paris 75016
010 331 524 8200

DSE
Deutsche Stiftung fur Internationale Entwicklung
Funding
Dietrich Steiner
Hans-Bocklerstr 5
Bonn D-5300
010 49 228 4001 120

IRB
Information Centre for regional Planning and Building Construction
Maintains ICONDA and HABIDOC databases
Karl Heinz Deitz
Nobelstr 12
Stuggart D-7000
010 49 711 6868 500

IMWOO
Institute for Social Science Research in Developing Countries
Co-ordinates development information activities
Kees Breed
Badhuisweg 251
The Hague 2509 LS
010 31 70 510 577

DERAP
Chr.Michelsen Institute
Documentation, research
Kirsti Hagen Andersen
Fantoftvegen 38
Fantoft 5036
010 47 5 285 613

ACCIS
United Nations Admionistrative Committee on Co-ordination
co-ordinates UN Information Systems, produces DUNDIS
Celine Walker
ACCIS Secretariat
Palais des Nations
Geneva 1211
010 41 22 988591

IUED
Institut Universitaire d'Etudes du Developpement
Research, documentation
Rene Barbey
24 rue Rothschild
BP 136
Geneva CH-1211
010 41 22 31 59 40

Development Information

RAS
Royal African Society
Publishes Bibliography of Africa
10 Northumberland Row
London WC2
01 930 1662

RGS
Royal Geographical Society
Library, maps
1 Kensington Gore
London SW7
01 589 5466

RIIA
Royal Institute of International Affairs
Library, press cuttings
10 St. James Square
London SW1
01 930 2233

RIPA
Royal Institute of Public Administration
Library, training
Nick Dimant
3 Birdcage Walk
London SW1H 9JH
01 222 2248

RSA
Regional Studies Association
Research, publication
29 Great James
London
01 242 0363

SCOLMA
Standing Committee for Library Materials on Africa
Produces African Research and Documentation
John McIlwaine
School of Archives, etc.
University College London
London WC1E 6BT
01 387 7050

SOAS
School of Oriental and African Studies
Library, training
Helen Cordell
University of London
London WC1E 7HP
01 637 2388

TRRL
Transport and Road Research Laboratory
Transportation, research, consultancy
Richard Robinson
Crowthorne
Berkshire RG11 6AU
0344 773131

TWBR
Third World Book Review
Journal
173 Old St.
London EC1
01 608 0447

TWQ
Third World Quarterly
Journal linked to Third World Foundation
New Zealand House
Haymarket
London SW1
01 930 8411

UKCCD
United Kingdom Council for Computing Development
Consultancy, training
Julian Bogod
13 Mansfield St.
London W1M 0BP
01 637 0471

UNLIC
United Nations London Information Centre
Library
Pat Farquar
Ship House
20 Buckingham Gate
London SW1
01 638 1981

VSO
Voluntary Service Overseas
Charity
9 Belgrave Square
London SW1X 8PW
01 235 5191

WOW
War on Want
Charity
1 London Bridge St.
London SE1
01 403 2266

WUS
World University Service
Education
20 Compton Terrace
London N1
01 226 6747

RECENT PROGRESS IN DEVELOPMENT INFORMATION SYSTEMS IN BRITAIN

JOHN LINDSAY

SCHOOL OF INFORMATION SYSTEMS
KINGSTON POLYTECHNIC
and
DEVELOPMENT PLANNING UNIT
UNIVERSITY COLLEGE LONDON

PAPER PRESENTED TO THE INFORMATION AND DOCUMENTATION WORKING GROUP OF EADI AT THE TRIENNIAL CONGRESS, AMSTERDAM, 1987.

1. Abstract

Significant progress has been made in the functioning of information systems in development in Britain during the past three years, partly as a result of real improvements in the functioning of the technology, but also partly as a result of the coming together of a group of people who through sharing their expertise and providing a common body of experience, have been able to proceed at a rate faster than if they had been working alone.

It is likely that the rate of change will accelerate, but that this Group will provide a continuing pool of assistance to new practitioners. It is to be hoped that in this period more work will shift from quantitative improvements to qualitative evaluation.

2. Introduction

In February 1984 a meeting took place at the Development Planning Unit in University College London of about twenty people representing a wide range of institutions concerned with the field of information and development planning. From that meeting the decision was taken to set up a group, and to produce a newsletter. The group decided to function under the heading of EADI as many of the participants were EADI members. The newsletter has now produced seven issues, and the group has met at least yearly since then. This paper sets out to chart the progress of that group and to comment on parallel developments in other institutions.

3. Theoretical issues

One of the first problems was whether there was enough shared opinion about the issues we were confronting to make functioning as a group worthwhile? Workers in the agricultural field are much better supplied with resources, such as CAB, than those in, for example, the urban planning area or housing, and so might not feel the need for collaboration. Yet as the contribution of "information" is ubiquitous, the idea of "development" undergoing a considerable theoretical reappraisal (1) and the concept of "planning" under attack by what might broadly be called

"Thatcherism", it emerged that there appeared to be enough synergy for the group to have a reason to continue.

In addition it is by no means obvious that information technology can make an enduring contribution to the lives of people in the third world. Early meetings of the group involved looking at the existing literature and experience, trying to produce a consensus.

Above all it is far from clear that effective design of information systems can be evaluated, such that investment by aid agencies and NGOs, or the utilisation of the scarce resources of the governments, may be measured. This means that practitioners have continually a sense of unease, that we might be achieving the opposite of what we seek. By discussing these issues we have sought to maintain a balance between the paralysis which arises from uncertainly and the uncritical certainty of the over-confident

4. Identification of the central institutions

In one sense and at one level these have been self-selecting, for the people who turn up at the meetings are the most active and most involved. Yet precisely because of the universality of information, it was necessary to identify the range of information providers, the types of information involved and the potential users. Arising from the EADI Working Group meeting in Bergen in 1985, UNESCO funding allowed for a survey of institutions in Europe to get an idea of the range of information, that which was electronically recorded, at those institutions which were already capable of electronic networking. (2)

The discussion of this paper at a number of working group meetings allowed also to some extent a clarification of one particular issue: that "development planning" had to be the central issue of "development information", the generalities of "information about the third world" was much too wide.

Though frequently discussed, we have not yet succeeded in publishing a list of the institutions identified. This is seen as a matter of some urgency, even if the first edition should prove imperfect.

One step forward though on which it is hoped that progress is being currently made is the co-ordinated production of an index of journals.

5. Progress in access to technology

This section surveys the work of the members of the EADI Information and Documentation Working Group in Britain (hereafter referred to as "the Group") in introducing information technology in their organisations.

1. ODA

ODA (Overseas Development Administration) Microcomputers using Cardbox Plus and Inmagic. Production of journals index called Development Index. 10.5k records available as a test database on Datasolve.

2. ODI

ODI (Overseas Development Institute) IBM AT using Inmagic. 7k records catalogued. Production of journals index called Periodicals Reference Bulletin with records included in database.

3. IDS

IDS is in the process of installing a full Minisis implementation. Partly as a result of the pressure of the Group, the design specification now places external contact to this database as a matter of major concern. Clearly this database will prove to be of central importance as the IDS is the deposit library in Britain for development issues. Funding and government policy however give cause for continual fear that the costs of using it will prove prohibitive.

The project is now producing a newsletter to keep interested parties informed of developments. They have already mounted the Food Aid Bibliography involving 3.5K records, but modem problems have meant that this is not yet capable of being searched on-line.

IDS produced the Register of Development Research Projects in the past, but now say that they will be unable to do so again. The tape of previous editions is available; it is to be hoped that the DSA (see later) will take this on. It is also possible that the networking proposal (see later) will help in this.

4. PPC

Bradford University Project Planning Centre: Victor (IBM compatible) using dBaseII, with 15K records catalogued. In addition there is 5K of article citations in a journals index file and 5K of chapter level indexing in a chapters file.

5. IDP

Manchester University Institute for Development Policy and Management (Previously Development Administration Studies) IBM equivalent using dBaseIII Plus with 12.5K records in database.

6. DPU

DPU work started early using BBC Bs with torch 2nd processor disk drives and dBaseII. Shortage of funds has delayed continuing data creation. Access to JANET. DPU is part of University College London whose catalogue is maintained within the University of London Central Information Service. UCL is also a site of the project Quartet (a BL funded project involving online searching, electronic mail and facsimile for document transfer).

7. LRDC

Land Resources Development Centre is a department of the ODA. TRADIS database on PDP11/75 using CAIRS, now containing 42,000 records occupying 38Mb. This is spun by the CABI on a bureau basis and is accessible via PSTN and via Dialog. The Tropical products Development Institute will be merging with them in September; the databases will then run in parallel but are unlikely to be merged.

8. CAB

CAB is not currently involved in the Group and its resources are much more considerable that any of the current participants, but it is worth noting that it now is capable of offering an integrated package of on-line access, output on tape, paper or floppy disc, and is now evaluating a prototype project using CD-ROM. It is not accessible through JANET but is through Dialog and other spinners.

9. CDS

Swansea University College Centre for Development Studies was involved in the early stages. It is not currently computerised*? One of its staff though produces the abstracts for International Development Abstracts which is a commercially produced publication now available on-line. The Main University catalogue though is computerised and is available via JANET.

10. ODG

University of East Anglia Overseas Development Group does not maintain an independent library. The main library is computerised and access is available through JANET.

11. DAG

University of Birmingham Development Administration Group was involved in the early stages but isn't currently. They are planning to implement a computerisation programme shortly.

12. DPP

The Open University unit called Development Policy and Practice is the most recent to join. They are computerised through the OU and have put up a bulletin board on the third world within HUMBUL, a humanities bulletin board maintained at Leicester University.

13. British Council

The British Council has from time to time been involved, but is such a disparate body that it is not really possible to describe its information resources or its contribution to the Group.

6. Progress by other organisations

1. Higher Education

Clearly there are a large number of institutions with a substantial interest in this field. The London School of Economics, the School of Oriental and African Studies, the Institute of Latin American Studies (which maintains the British Union Catalogue on Latin Americana), The Institute of Education in the University of London (which is involved in the production of the British Education Index), the School of Hygiene and Tropical Medicine (which produces the Tropical Diseases Bulletin), The Institute for Commonwealth Studies, The Centre for African Studies at Cambridge, the Southern Africa specialist collection at York, the Middle East Centre at Durham, the David Livingstone Institute at Strathclyde, the Department of Architecture of

Newcastle, the Disaster Management Centre at Oxford Polytechnic and so on all have specific activities, but have not reported on their use of information technology.

Specifically worth mentioning is the London University GEAC system which allows the catalogues of the six major colleges to be searched, albeit rather primitively. The University is currently engaged in planning the next upgrade which should lead to the production of a major new bibliographic service.

There are in turn a variety of standing committees such as that on Africa (SCOLMA), the Middle East (MEDLAR), South East Asia, South Asia and Latin America. but again I know of none of them taking a leadership in information systems development. They do however provide a useful forum for communication and information pooling, hold meetings and produce newsletters.

2. JANET

JANET is the joint academic network, originally set up by the Science and Engineering Research Council. It links higher education and research institutions in Britain, and through gateways allows access to EARN, BITNET, EUROCOM and PSS.(3) There have been a number of developments which have allowed for several opportunities to be taken up.

1) Networking made easy. The installation of various software packages and machines allows now for networking, file transfer, electronic mail and the creation of bulletin boards which may be used by anyone who has access. These enhancements allow for increasingly higher levels of computer ignorance for effective use.

2) Libraries come on board. There now exists a user group within JANET.News of libraries providing access. The directory of their call parameters has been published and they are setting up what amounts to a bulletin board. Some of these have specialist collections, or are substantial centres in their own right. SCONUL, the Standing Committee of National and University Libraries, in some sense plays a co-ordinating role.

3) The British Library database BLAISE is now available via JANET.

The Group intends that JANET come to provide our central medium of co-ordination and communication, using it as the host for a database of projects, journals, conferences and so forth, which is co-operatively produced, a bulletin board and an electronic mail service. Those members of the Group who do not have rights to JANET are having special privileges negotiated.

3. ICCDA and EADI

ICCDA and EADI, outside Britain, have also made considerable progress following the report of Pauline Ostwich. This paper is concerned with Britain, so

nothing further will be documented here.

4. DSA

The Development Studies Association has now set up an Information Systems Study Group which has had two meetings. Its membership comes more from academics concerned with investigating a number of the issues I outlined earlier whereas the EADI group is concerned more with information services, but there is a considerable overlap and they currently share the newsletter.

5. LA

The Library Association has a senior executive who takes an interest in international affairs, has a membership group called the International and Comparative Librarianship Group which meets periodically (it has for example organised a meeting on computerisation for non-roman scripts) and publishes a newsletter, FOCUS. It has an overlapping membership with this Group but does not appear to have engaged on project development of a practical nature, except to publish a handbook of bodies engaged in international librarianship.

The LA's publishing department has put Library and Information Sciences Abstracts (LISA) on a CD-ROM, which opens up a possible area of future work, and produces ASSIA, a database on social services which it says will be deliberately international in coverage.

6. BCS

The British Computer Society has a Developing Countries Group, which produces a newsletter and holds periodic meetings. The Group is more concerned with the actual technical issues of computerisation than with information services, but membership to some extent overlaps with that being reported here, The BCS is in turn the British body for the International Federation for Information Processing (IFIP) which has a Working Party concerned with development issues.

They also link up with other groups and have for example organised a substantial conference on arabisation.

7. UKCCD

The United Kingdom Council for Computing Development links consultants, computer manufacturers and interested people, holds periodic meetings, publishes a newsletter, and is responsible for the editorship of the Journal of Information Technology for Development, published by OUP.

8. British Library

The British Library has put resources into IDCC (see following), into JANET (see above), and into project Quartet as well as a number of other activities which will aid development information. Clearly as the organisation which maintains the central national resource and the Official Publications Library it must be mentioned, but it would be difficult to suggest that

it has made a coherent contribution to the issues of this paper.

Specific projects which are not development focused but which bear a relationship are the SIGLE project, ADONIS, Quartet, the Index of theses and translations, BRUPC (British Research in Universities, Polytechnics and Colleges) and the Index of Conference Proceedings received. See BL documentation for additional information on these.

9. Other government departments

Other government bodies which could be mentioned include the Transbinary Study of Training in Librarianship in Britain (4) which did not appear to recognise that the issue of the third world even existed, a House of Lords Committee of Geographic Information Systems (5), the Tropical Development Research Centre (which is to merge with LRDC), the Foreign and Commonwealth Office (FCO) which now has a joint development officer with the ODA on information systems, the Statistics and Marketing Intelligence Unit of the Department of Trade and Industry, the Transport and Road Research Laboratory (which maintains a database on road documentation in developing countries), the Building Research Establishment which has created the database BRIX, the Property Services Agency, the CCTA (which is concerned with information systems standards), the British Standards Institution and others. Without turning this paper into a repeat of a previous survey, it might simply be noted that none of these has been involved in the work of the Group on which this paper is commenting.

The British node of INFOTERRA within the Department of the Environment has been involved to some extent, though badly under-staffed and underfunded. The database is now available on floppy disc running under micro CDS-Isis, but the British office doesn't have a microcomputer substantial enough to run it.

Though not a government department one could include here the Commonwealth Secretariat whose Science Council has been involved in IT projects, but not with EADI or the Group.

10. IDCC

The Information for Development Co-ordinating Committee was set up originally by the BCS in an attempt to pull together interested parties. As a result of funding from the British Library it has survived, and provides a forum where representatives of the professional bodies mentioned so far, plus the Institute of Information Scientists and ASLIB can meet, along with other interested persons. It is still unclear what it will actually produce.

11. Consultants

Another area of activity is that of the private consultancy practices. Clearly a number of them are involved in managing projects in developing countries, and advising on information systems. There is a Consultants Bureau which hold periodical conferences at very high fees, but none have contributed to the work of

EADI or the Group.

Within the field of information studies, Library Development Consultants (who produce the journal Information Development) and Information Management Engineering (who have produced the software package Tinman for library management) are examples.

One might here also note commercial organisations such as the International Coffee Organisation, the London Metal Exchange, the Banks, British Telecom, IBM, Logica, Arthur Andersen, Arthur D Little etc, all of which now have extensive information technology, substantial information services and a considerable activity and influence in the third world. It would be an exercise of imagination to say they are expressly concerned with "development" and their services are unlikely to be available to an enquirer other than with access to special privileges. It might be worth simply noting that there is an area for further study here.

12. Charitable Institutions

These form another group of concerned institutions. Some of them are reported to be at various stages of computerising their own information sources, and to be involved in managing projects which involve information technology, but none have so far been involved.

Worth mentioning might be IIED, Earthscan, the proposed World Press Centre London and Netreach but I have no reliable information on their uptake of IT.

The "Band Aid" extravaganza produced no observable effects in the areas being studied for this paper. This might of course simply indicate that it is we who are out of touch with current best practice.

7. Other Information systems

1. Best

British expertise in Science and Technology is a new online database on people, and as such is a break from existing bibliographical services. It doesn't easily allow third world retrieval and appears to be extremely expensive to search.

2. Databases

There are clearly a number of databases which have a development component though none of them make retrieval easy. Some have been mentioned already in this paper- Tradis, Development Index, TRRL, Brix etc - see the table of contents for a summary.Patent databases is one area in particular where more work should be done.To keep up to date the ASLIB Online Centre publishes Online notes. A future project of the Group is to include examining expert systems as a contribution to making access to this range of literature easier.

1. IDA

Particular mention should be made of International Development Abstracts, now available as a database on Dialog as well as hard copy published by Elsevier. It is a sub-set of Geo-abstracts, which

publishes widely in the field of geography and geological sciences.

2. Index to theses

As well as Online notes, ASLIB publishes the main Index to Theses in Britain. The latest edition is a database, but it is not yet available in machine readable form. The index does not allow for easy retrieval of third world issues.

3. ESRC Centre Economic Computing

This Centre produces a useful guide to statistical software, and is working on access to internationally available statistical databases, for which there is not the level of organisation which exists for bibliographic material.

4. Mapping

Databases of maps and directories of digitised maps and remotely sensed information sources are covered by the Overseas Survey and the Royal Aeronautic Establishment at Farnborough. By their nature these media are international and therefore cover the developing countries. There is not involvement by these organisations in the Group, and there isn't a chapter of SORSA in Britain. The most likely contact point is the British Urban and Regional Information Systems Association which produces a newsletter, but has no specific third world component. .

5. Chadwyck Healey

This company produces a microfiche publication of all the World's central banks' annual reports from the Joint Fund Library in Washington. The company is becoming involved in information technology and has plans to expand its coverage. A project to cover the urban development plans of the major third world cities is presently in cold storage.

8. Training

If there is consensus about anything, it is that training is the issue to which the most emphasis should be given. The most urgent need is for the evaluation of programmes and the development of an idea of good practice.

There is another often expressed feeling that much training is inappropriate and that people coming to Britain have to jump an experience gap as well as a language barrier. There is considerable discussion about three issues:
1) the level at which training is most useful;
2) the value of in-Britain training versus in-country training;
3) how information technology, information systems design and the traditional disciplines may best be integrated.

There are now several courses which cater for a combination of information technology and development planning, and many others which incorporate information technology into a traditional discipline, though few of them have a particular third world orientation.

1. MSc level courses

The University of Wales Institute of Science and Technology Department of Town Planning runs a full time Masters degree in Information technology for Planning and the London School of Economics Department of Information Systems runs a Masters degree and a Diploma which have a number of third world participants. These courses are not aimed specifically at them, but have seminars which deal with third world issues.

2. DPU

The Development Planning Unit at University College London has run for four years a one month short course on Computers and Development Planning, which is aimed specifically at introducing senior planners to information technology and information systems design.

3. ODG

The Overseas Development Group at the University of East Anglia has run a short course on microcomputers for project planning

4. Bradford

The Project Planning Centre at the University of Bradford has also advertised that it is to run a course on microcomputers and project management in September .

5. Other courses

Other institutions such as the IPDM at Manchester integrate introductions to information technology into their courses rather than running special ones. There are then the Schools of Librarianship and Information Studies, Departments of Architecture and the Departments of Computer Science as well probably as Business Schools and other departments which have relevant courses and or a significant number of third world participants. The Department of Information Studies at Sheffield has held a specialist course, funded by the British Council, and has been involved in a number of projects in developing countries. Hilary Dyer has surveyed the Schools of Librarianship (7) but I don't know of another recent survey in the other fields.

It is possibly typical of librarianship to do a survey of courses, but not to run them, while other disciplines run them but don't do surveys.

6. Seminars

The UKCCD and the British Council jointly organise a seminar for students of computing studying in Britain annually at Easter at the University of Kent. It is attended by more than one hundred participants.

The University of wales in Aberystwyth runs a summer school on librarianship in developing countries and the University of Sheffield Department of Information Studies has run a special seminar.

9. Errors in this paper

1. There will be a number of errors of fact or new development in this paper. I'd be pleased if readers

would point them out to me.

2. Secondly there is the problem of definition of the field and the placing of development planning as the central issue. While some may see this as an error, please recognise that it is the considered opinion of the Group.

3. Thirdly there is the issue of omission. If there are activities in Britain which are not included of which you are aware, please let me know. But also please bear in mind that it is not the purpose of this paper to cover the universality of knowledge; but to focus quite tightly into what we consider the organisation of information as affected by the new technologies in its influence on the development of third world countries by the conscious application of planned processes.

11. References

1.see for example Harris, Nigel. The end of the third world. Harmondsworth: Penguin, 1987.

2.this work was reported in Lindsay, John. Databases and networking for development: the orgnisation of information in Europe in the field of policy and planning for developing countries. Paris: UNESCO, 1985. (Unpublished)

3.there is now a very useful JANET Guide available as a file within JANET.News. It requires customising for a particular institution.

4. Report of the Transbinary Group on librarianship and information studies. London: British Library, 1986.

5. Chorley Committee. Handling geographic information. London: HMSO, 1987.

6.Smith, Inese (ed). Developments in international and comparative librarianship, 1976-1985. London: ICLG, 1987.

7.Dyer, Hilary. Survey of training institutions in Britain. London: British Library, 1985.

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Progress in access to technology
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- ODI
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- PPC
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- CDG
- DAG
- DPP
- British Council

Progress by other institutions
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- JANET
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- LA
- BCS
- UKCCD
- BL
- Other government departments
- IDCC
- Consultants
- Charitable institutions

Other information systems
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- Mapping
- Chadwyck Healey

Training
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- ODG
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References

END

U.S. Dept. of Education

Office of Education
Research and
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ERIC

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